News from Ed Markey

United States Congress **Massachusetts Seventh District**

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MARKEY WARNS OF RISK POSED TO IRRADIATORS IN U.S.

48 States possess hundreds of dirty bomb sources – some with millions of Curies

Washington, DC: Representative Edward J. Markey (D-MA), a senior Member of the House Energy and Commerce Committee and co-chairman of the Bipartisan Task Force on Nonproliferation, today released a letter to the Nuclear Regulatory Commission (NRC) asking for information related to the security of the hundreds of radioactive irradiators located in the U.S.

"There are hundreds of radioactive irradiators at these facilities – at industrial food and medical irradiation/sterilization units, hospitals, and research institutions – that could be used by prospective terrorists as dirty bombs. We now know Al Qaeda is trying to attack the U.S. using dirty bombs. We need to make sure these materials are secure," said Rep. Markey.

According to a Markey staff compilation of information provided to Rep. Markey by the NRC, the amount of radioactive irradiators at each of these sites ranges from fractions of a Curie to millions of Curies. 48 States possess at least one irradiator, 25 States have 10 or more irradiators, 13 States have 25 or more irradiators, 7 States have more than 50 irradiators, and 17 States have at least one irradiator that is greater than 1 million Curies. At the NRC's request, Rep. Markey withheld release of specific information on the names and locations of these facilities.

The amount of damage such a device could do depends on the amount of conventional explosives used to detonate and disperse the device as well as on the amount of radioactive material used. In an April 15, 2002 letter to Rep. Markey,[1] NRC Chairman Meserve stated that a dirty bomb containing a mere 1 Curie of radioactive materials could "spread low-level contamination over an area of several city blocks, possibly resulting in restriction of the area until the area was surveyed and decontaminated." Analysis performed by the Federation of American Scientists[2] modeled three different dirty bomb case studies. One scenario, which involved the detonation of a single rod of cobalt (these rods are typically 1 inch in diameter and a foot long) obtained from a large food irradiation plant, was found to result in the contamination of 1000 square kilometers, with a 10% risk of death from cancer for residents living inside a 300 city block area for 40 years following the detonation.

Rep. Markey's letter also raised the possibility that a conventional explosive could be hidden inside a shipment of food or medical equipment bound for an irradiation/sterilization facility, which can contain millions of Curies of radioactive Cobalt. Once inside, the bomb could be detonated remotely, which could blow a hole in the walls/roof of the facility and disperse radioactive materials over a large area.

Rep. Markey's letter asked the NRC for the following information:

- Whether individuals who have access to these materials (or transport them to large irradiation/sterilization facilities) are required to undergo criminal and security background checks to ensure that they do not pose a security risk.

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[1] See Page 41 of http://www.house.gov/markey/iss_terrorism_ltr020502.pdf
[2] See http://www.fas.org/faspir/2002/v55n2/dirtybomb.htm

- Whether there are adequate security measures (gates, locks, guards, etc.) at facilities used to store radioactive irradiators.
- Whether the roofs and walls of large irradiation/sterilization facilities can withstand the impact of the detonation of a large truck bomb that takes place i) inside or ii) just outside the facility.
- Whether all shipments delivered to irradiation/sterilization facilities are searched to ensure they do not contain explosives.
- Whether the NRC and/or Agreement States inspects these facilities to ensure that the materials are secure. Copies of all correspondence can be found at http://www.house.gov/markey/iss_terrorism.htm

State by State List of Irradiators as Compiled from Information Provided by the NRC

State	# with less than 9.999 Curies	# with 10,000 – 49,999 Curies	# with 50,000 – 99,999 Curies	# with 100,000 – 499,999 Curies	# with 500,000 – 999,999 Curies	# with 1-5 million Curies	# with more than 5 million Curies
Alabama	2	1	0	0	0	0	0
Alaska	1	0	0	0	0	0	0
Arizona	9	1	0	0	0	0	0
Arkansas	4	0	0	0	0	1	0
California	96	14	4	1	1	2	3
Colorado	19	0	0	0	0	0	0
Connecticut	5	1	0	0	0	0	0
Delaware	2	0	0	0	0	0	0
DC	5	1	1	0	0	0	0
Florida	30	6	0	0	0	2	0
Georgia	14	1	0	1	0	0	0
Hawaii	1	0	0	0	0	0	0
Iowa	6	0	0	0	0	0	0
Illinois	74	3	1	0	1	3	2
Indiana	2	0	0	0	0	0	0
Kansas	10	3	0	0	0	0	0
Kentucky	11	0	0	0	0	0	0
Louisiana	16	2	0	0	0	0	0
Maine	2	1	0	0	0	0	0
Maryland	42	6	1	3	1	2	0
Massachusetts	63	5	0	0	0	1	0
Michigan	9	0	1	0	0	0	0
Minnesota	6	1	0	0	0	1	0
Mississippi	5	1	0	0	1	0	0
Missouri	3	0	0	0	0	0	0
Montana	2	0	0	0	0	0	0
Nebraska	7	1	0	0	0	3	0
Nevada	4	0	0	0	0	0	0
New Hampshire	2	1	0	0	0	0	0
New Jersey	31	3	1	1	0	3	0
New Mexico	6	1	0	1	0	0	1
New York	59	3	0	1	0	1	0
North Carolina	27	7	0	0	0	2	1
North Dakota	6	0	0	0	0	0	0
Ohio	22	1	0	0	0	2	0
Oklahoma	13	0	0	0	0	0	0
Oregon	11	0	0	0	0	0	0
Pennsylvania	53	8	0	0	0	1	0
Puerto Rico	5	0	0	0	0	2	0
Rhode Island	2	1	0	0	0	0	0
South Carolina	4	0	0	0	0	3	0
Tennessee	23	8	0	0	0	0	0
Texas	62	5	0	1	0	4	3
Utah	7	0	0	0	0	1	0
Vermont	2	0	0	0	0	0	0
Virginia	16	1	0	1	0	0	0
Washington	40	5	0	0	0	0	0
Wisconsin	15	2	0	0	0	0	0

25 States have 10 or more irradiator sources.
13 States have 25 or more irradiator sources.
7 States have more than 50 irradiator sources.
17 States have at least one source that is greater than 1 million Curies.